

Power Pole Bells and The Bell Garden

Anne Norman

is a Melbourne-based composer, instrument designer and performer specialising in shakuhachi - Japanese end-blown bamboo flute. Anne has lived, studied and performed in Japan for many years and has studied the musics of many cultures.

For further information, including diagrams of the Bell Garden and sound bytes of the Power Pole Bells, please contact Anne Norman via her website. URL: <<http://home.vicnet.net.au/~amncrow/PPBells.html>>.

Power Pole Bells

Power Pole Bells (PPBells) are recycled galvanised iron caps from the top of old electricity poles. These iron caps were made by the old State Electricity Commission (SEC) in Victoria to fit electricity poles made from tree trunks of varying diameters. Their function was to protect the poles from the weather and to mount insulators above the poles. They make marvellous microtonal bells, the diameters ranging from 18cm to 32cm with a pitch range of nearly two octaves from approx 130 Hz to 440 Hz.

Over the last 5 years I have been collecting these caps and putting them into pitch sets. I have de-rusted, painted them and composed for them. They have been played in Melbourne, Frankston, Wodonga and Nishinomiya, and been recorded in live performance by the ABC and released on CD by MOVE records. More recently, I have formed a new 5-piece ensemble, The Up Rising, which performs with PPBells, drums (mainly taiko) and found objects, including quirky vocalisations, physical movement and an off-beat sense of humour.

The impetus to collect power pole bells came from a number influences. For example, I spent several months in Bali in the 1980s working with local musicians, surrounded by gongs and other gamelan metallophones. I worked with percussionist Peter Neville in ensembles such as Nadoya and Jouissance involving the playing of found objects. Studying in Japan exposed me to Japanese Buddhist prayer bowls (rin) used one at a time as a sonic initiation to prayer. Over time, I have developed a general fascination with bells and an obsession with metal and ceramic found sound objects.

Bell Structures

I recently received an Australia Council Sounding Out grant to finance the construction of two different bell mounting structures that will assist different performance practices of PPBells. One is an electroacoustic bell garden that will be for use with movement artists and as an interactive public sound art installation. This will



Figure 1: Power Pole Bells.

take the bells to a wide audience, through installations in galleries, festivals and in movement theatre venues. The second structure is a three-panelled frame for acoustic performance, facilitating greater performance ease and a better visual and sonic experience for the audience. To date, the bells have been played on the floor. Being up off the ground, the bells' sound will project further and they will be more easily visible. This will also make outdoor performance easier.

In January 2001, I was Artistic Director of the Frankston Sea Ceremony. For one item I mounted five bells individually on wooden staffs. Five musicians played these on the beach at sunset in a roving choreographed piece. Each player carried a staff in one hand with a heavy bell skewered on it at head height and a padded beater in the other. Each bell was a different pitch and the performers walked barefoot through the crowd and across the sand. Small radio microphones were installed inside the bells, projecting the sound to a crowd of over 1000 spectators. The performers met in a circle in front of the crowd. Using the base of the staff as a fulcrum, they swayed and danced using gestural movements to strike their own and each other's bell. The effect was visually and sonically spell binding.

Sitting in the crowd on the beach while the bells were played, I overheard a couple of people in the audience saying, "I wonder where these bells come from, they are beautiful". "Oh," said another, "they are a traditional Japanese instrument. The composer lived in Japan for a long time". I didn't bother to correct them, to tell them that they were made by the SEC of Victoria. An accompanying anecdote to this: when the bells were played in Japan in my

composition *We Lose Things* at a memorial performance for dancer Machiko Kaneko, people asked if the bells were an ancient Australian aboriginal invention.

The Bell Garden

The Bell Garden, Prototype 1 (BG1), is an interactive electroacoustic sound sculpture (still under construction) featuring ten Power Pole Bells. This multifunction Bell Garden incorporates Angelo Fraietta's Smart Controller, and is for use in live performance with movement artists and musicians. It is also available as an interactive public sound art installation. The public will be invited to strike the bells and, at other times, by simply wandering through the bell garden, they will trigger automatic responses. The proposed phases of operation for the BG1 installation mode will have a total duration of between 44 and 80 minutes, the exact duration being dependent on public interaction with the installation. The sequence of phases will be repeated in an infinite loop until manually turned off.

The BG1 can be performed in a number of permutations: acoustically with a range of beaters; with subtle amplification and effect modulation of the acoustic sound; through movement detectors triggering an auto striking mechanism (solenoids); through movement detectors triggering samples (environmental sounds / voices / music sound bytes); in auto mode with solenoid strikers being controlled by pre-programmed MIDI sequences; and a combination of the above.

Bell Garden Components

The metal structures or 'stalks' upon which the bells of the BG1 are mounted, are constructed by metal artist Michael Sanders of *Ironic Twist* fame. Each bell is fitted with a solenoid for auto striking, a piezo contact microphone. Just below the bell, inside the stalk, is an infrared (IR) diode for movement detection. Other components in the installation include an AKAI CD 3000i sampler, a Digitech TSR-12 multi effects processor, a Behringer UB 1204 mixer, a Jatón computer speaker system M6C-5308

with subwoofer / amp and five satellite speakers. There is an information board to inform the public of the current phase of operation. The speakers are mounted near the bell stalks, and effects and samples are routed to the speaker mounted near the appropriate bell or bell cluster. Acting as the Bell Garden's command centre is Angelo Fraietta's Smart Controller, handling all commands and phases of operation.

Tuning Systems and Pitch Sets

The tonality of any work performed by or on the Bell Garden (or the acoustic Bell Frame) is determined by the selection of power pole bells. The current installation has only 10 bells, using a wide range of pitches. Many of the pitches approximate Western tuning, so as to facilitate easier interaction with live musicians performing on equal temperament instruments. A larger installation would allow a greater incorporation of microtonal intervals. Many of the SEC caps hover between D (just above middle C) and F (3 semitones higher) with many being between E-quarter-tone sharp and D-quarter-tone sharp. None of them have exactly the same overtone series or timbral colour, making each bell unique. This is what I like about them. A composition using only a cluster of close pitches allows for a celebration of complex composite sound waves and the resultant 'beats'. However, fine-tuning of the bells is possible through shaving off the rim of the bell to raise their pitch.

The Bell Garden as a Performance Installation

The nature of the Bell Garden allows for interactive performance with dancers and musicians, performing on the bells

themselves, and on other instruments in reaction to the Bell Garden. Once it is finished, I hope to have it exhibited and played at festivals and galleries, and for each event organise an opening performance in collaboration with local performance artists.

Invitation to Compose for the Bell Garden

I am inviting composers and composition students from the towns in which the Bell Garden will be installed to approach me for its specifications for selecting pitches and reprogramming the Smart Controller to perform samples and MIDI sequences, as well as the phases of operation for public and interactive performance.

Not On My Own

I am currently in the middle of constructing the Bell Garden, ably assisted and advised by mentor Warren Burt, and encouraged and helped along by a myriad friends, with a special thanks to David Matthews. I have not yet met Angelo Fraietta, but so far we have been able to collaborate on this Smart Controller-driven installation quite successfully via email

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and phone. Angelo has not yet seen the physical set up of the garden, and often has to guess what I am intending or doing (Sorry Angelo!). Never having wielded a soldering iron before has become a new adventure for me. I have until now been mostly an acoustic 'muso', relying on technicians and engineers in performance and recording projects. When trying to decipher one of Angelo's circuit diagrams recently, I looked up at Warren and declared that I was just a simple bamboo blower. "Not any more", he quipped. ■